ART 34 AMDT

Magnetic-inductive device for the control of ferromagnetic reticles.

Technical Field

This invention consists in a device that allows a non-destructive testing of the metal inserts made of ferromagnetic material in the form of wires and webs and is therefore particularly suitable for the inspection of tyres before being reconstructed.

Background Art

The metal inserts in ferromagnetic material are used in different applications. They can be used as supporting elements of complex structures or as being part of particular single elements.

For example, the covering of a tyre has an internal insert of steel wires, which are criss-crossed to strenghten the whole structure.

Worn out tyres are covered with a new tread allowing in this way their recycling. The reconstructed tyre achieves, in this way, security levels which can be compared to a new tyre from any point of view. The application of stricts working procedures, from the acquisition and suitability testing of the structure, to very accurate pressure controls of the final product under working conditions, guarantees the high quality of the entire production process.

All wracks directed to reconstruction are in fact previously carefully examined through the utilization of suitable equipment, which verifies the conditions of suitability to reconstruction.

One of the main parameters taken into consideration is the integrity of the metal insert, which is usually tested through x-rays, ultrasounds equipments or through scirografy.

Unfortunately the non-destructive testing of ferromagnetic metal inserts using these appliances is rather expensive.

Two patents for non-destructive material tests are known, which make use of magnetism and electro-magnetism. Patent US 2001/019263 describes an apparatus for testing the conditions of railroad rails. It consists in a wave generator/transmitter, inclusive of a solenoid, and in a wave receiver, also inclusive of a solenoid. Both have the same structure and each of them is enclosed ~~in a~~

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